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THE PRAGMATISM OF KANT

EVERY theologian who has felt the influence of Albrecht Ritschl has been accustomed to lay emphasis upon certain elements in the teaching of Kant which are in harmony with the way of looking at things now so commonly known as pragmatism. It therefore seems to such theologians, or at any rate to one of them, strange that so little account is taken of Kant and of his influence in discussions of the pragmatic movement, whether by its friends or foes. In a famous and often quoted passage in one of his addresses, Professor James remarked: "I believe that Kant bequeathed to us not one single conception which is both indispensable to philosophy and which philosophy either did not possess before him or was not destined inevitably to acquire after him through the growth of men's reflection upon the hypotheses by which science interprets nature. The true line of philosophic progress lies, in short, it seems to me, not so much *through* Kant as *round* him to the point where now we stand. Philosophy can perfectly well outflank him and build herself up into adequate fullness by prolonging more directly the older English lines."

This judgment shows an amazing disregard of a side of Kant's teaching with which one might expect Professor James to be in heartiest sympathy and to emphasize accordingly. He is not singular in his attitude towards Kant. The impression given by many modern writers on philosophy, English and American, is that Kant is interpreted so exclusively in the light of post-Kantian, particularly Hegelian and neo-Hegelian idealism, that a large and important part of his thought has failed to receive the attention it deserves. It is in this neglected side of his thought that I am myself particularly interested, and no one surely can read Kant's posthumously published essay "Über die Fortschritte der Metaphysik seit Leibnitz und Wolff," the clearest and best summary of his philosophy with which I am acquainted, without realizing that he too was particularly interested in it. It appears most fully worked out in his "Kritik der praktischen Vernunft" and his "Grundlegung zur Metaphysik der

Sitten," but it comes to forcible expression also in nearly all his later writings, notably in the posthumous essay just mentioned. I refer, of course, to the doctrine of the postulates. We can not prove supersensible realities, they are inexperienceable by us. But in order to the living of our moral life, the fulfilling of our moral purpose, we postulate them and then live by them. We do not find them, we create them. We make them true by postulating them. To quote from Kant: "Out of the moral law which our own reason prescribes to us with authority, and not out of the theory of the nature of things in themselves, arises the conception of God which the practical pure reason compels us ourselves to make."[1]

"Granted that the pure moral law absolutely binds every one, not as a prudential rule but as a command, then the right-minded man may well say: 'I will that there be a God, that my existence in this world be also an existence outside the chain of nature, in a pure world of the understanding, finally, that my existence be endless. I insist on this and will not permit this belief to be taken from me.' "[2]

"So far as the idea of purpose is concerned it is always made by us, and the idea of the supreme purpose must be made *a priori* by the reason."[3]

"In this case we should not have to undertake investigations into the nature of things which we make for ourselves and solely for practical purposes, and which perhaps do not exist outside of our idea, and perhaps could not even though no contradiction were involved. For if we did we should only run into extravagance."[4]

"Theoretically we come by the most strenuous exertion of reason no whit nearer the conviction of the existence of God, the reality of the highest good and a future life, for no insight into the nature of supersensible reality is possible for us. Practically, however, we make these objects for ourselves as we regard the idea of them helpful to the ultimate aim of our pure reason."[5]

These (*i. e.*, the postulates) "are ideas made by ourselves with a practical purpose which must not be given theoretical value or they will turn theology into theosophy, moral teleology into mysticism, and psychology into pneumatology, and so put things a knowledge of which we make use of in practical matters over into a transcendent sphere where they are entirely inaccessible to our reason."[6]

[1] "Von einem neuerdings erhobenen vornehmen Ton in der Philosophie," p. 17; Vorländer's edition; in the *Philosophische Bibliothek*, Vol. 46a.

[2] "Practical Reason," *ibid.*, Vol. 38, p. 182.

[3] "Fortschritte," *ibid.*, Vol. 46 c, p. 125.

[4] *Ibid.*, p. 127.

[5] *Ibid.*, p. 130 ff.

[6] *Ibid.*, p. 143.

"Therefore belief has in itself a moral value, because it involves a free assumption.[7] The *credo* in the three articles of the confession of the pure practical reason . . . is a free acceptance of them as true without which it would have no moral value. It permits, therefore, no imperative (no *crede*), and the argument upon which its correctness is based is not that these propositions theoretically considered are proved to be true, or that there is objective information touching the actuality of the objects themselves, for this is impossible in connection with the supersensible, but that there is subjective and from the practical point of view valid ground to justify us in acting as if we knew that these objects were real."[8]

"That the world as a whole is always improving,—this conviction is justified by no theory, but by the pure practical reason which commands us to act in accordance with such an hypothesis, and so creates a theory agreeable to this principle."[9]

We are evidently moving here in a realm of pragmatism. If one says we have no evidence for the existence of God, no proof of divine purpose in the world, we may say in the spirit of Kant: We will put purpose there, we will give the world meaning which we can not discover in it. This is to be religious in Kant's sense. Faith in God is an heroic deed, not a passive acquiescence. We make a moral purpose supreme and we read it into the universe and thus we find God for ourselves. The primacy of the will, the recognition of its activity in forming truth, the insistence upon the practical nature and practical test of the truth thus formed—all this surely is genuinely pragmatic.

It is true that there is an absoluteness about the belief in supersensible realities thus gained which contrasts sharply with the looseness with which the modern pragmatist holds his postulates. And it is true, too, that Kant will hear nothing of the verification of these postulates by sense experience. But it is to be noticed that they are verifiable in man's moral experience; in the realm of values. In other words, they work in the moral life. If they do not, if by means of them the moral life can not be lived and the moral purpose forwarded, then they break down and must be repudiated. And so there is a consistent pragmatism after all, even though it is obscured by the use of the term experience in a narrow sense, and the conse-

[7] It is interesting to compare with Kant's notion of belief Hume's description of it as a "more vivid, lively, forcible, firm, steady conception of an object, than what the imagination alone is ever able to attain," and his denial that it depends in any way upon the will. (See the fifth section of his "Inquiry Concerning the Human Understanding," entitled "Sceptical Solution of these Doubts," part 2.)

[8] *Ibid.*, p. 129.

[9] *Ibid.*, p. 139.

quent assertion that the postulates are independent of all experience and should look for no validation there. The truth is that the fundamental difference between Kant and the pragmatists, as appears clearly enough in this connection, may be summed up in the statement that the latter take the word experience in a broader sense than he.

But in any case, even if there be an unpragmatic element here, it should not blind us to the significance of Kant's main contention. Man is a factor in the making of reality. The world is plastic, and is in part, at least, and in its most important part, what man makes it, for he gives it meaning and value. Reality is not simply what we find it, it is also what we make it.[10] It is not merely the given things, the brute facts, it is what we transform them into by interpreting them in accordance with our ideals and bringing them into subservience to our purposes. The practical reason according to Kant is not something to be apologized for, a monstrosity in the philosophical world, as most of his followers thought. It is superior to the theoretical reason because it carries us over into the higher realm of values, the realm of ideals and purposes, the plastic realm in which man is a dominant factor in the making of reality. It is significant that in his "Fortschritte" Kant defines metaphysics as the study of the way in which the reason may pass from sensible to supersensible realities,[11] and accordingly represents his Critique of the Practical Reason as alone dealing with metaphysics in a positive sense, and claims that his conclusions there mark the chief advance in metaphysics since Leibnitz and Wolff. His interest in the realm of values and the supreme significance which he attached to his epoch-making labors in that realm are thus made abundantly evident. Attention may be called in this connection to the fact that in his little essay "Was ist Aufklärung?" published in 1784, he defined *Aufklärung* not as the rationalist Mendelssohn had done, solely in intellectual terms, but as independence and maturity of character, the courage and the will to act as well as to think for one's self—a practical, not a mere theoretical, *Aufklärung*.

There are many other elements in this part of Kant's teaching which have a decidedly pragmatic sound and remind us of positions emphasized by one or another modern pragmatist. The contrast which Kant's idealistic followers are fond of drawing between appearance and reality, as if there were no reality in phenomena, was

[10] The familiar fact should not be overlooked in this particular connection that in opposition to Locke's view of knowledge as a purely receptive process Kant made the creative activity of the knower a fundamental thesis of his philosophy.

[11] P. 84.

denounced by him as unsound. Phenomena are real. Sense experience is a necessary element in reality and so reality is not fixed and unalterable, but is constantly in the making. The absolutism in this sphere against which the pragmatists are continually protesting is not Kant's.

The monism of post-Kantian idealism which some pragmatists are opposing so strenuously is equally foreign to him. The world is given not as an all, but as an each. It comes to us in experience as the many, not as the one. We may unify it conceptually by our reason or practically by our will, but the unity is not primal unity in which the many inhere and from which they flow. It is rather a unity to be attained, a unity in the making. Moreover, it is not absolute or all-inclusive; there are refractory elements which remain outside not only of our own unification, but of every one's, God's included. Kant was no easy-going optimist, treating evil as unreal. He believed in the existence of the radically bad and in its progressive overcoming not by its being taken up and transcended in the consciousness of the absolute, but by the conflict of free human wills. Man alone can overcome evil. It is his work, not God's. And though he live on everlastingly in an immortal life, the labor of overcoming will never be finished.

Similarly the God whom Kant postulates upon the basis of man's moral purpose is not an absolute being. He is not the one, or the all. The reality and freedom of the individual are in no way limited by Him. He is simply one of many free moral beings, working each for his own end. He need not even be infinite. To postulate Him is simply to postulate will and power for the accomplishment of a certain definite purpose, beyond that and aside from that nothing. Whether or not Professor James's pluralism be regarded as a necessary consequence of his pragmatism, at any rate it is congenial to the pragmatic spirit. The same is true of the pluralism of Kant.

That there are important pragmatic elements in Kant's teaching no one certainly can deny in view of the considerations that have been mentioned. But what of the "Critique of the Pure Reason," with its emphasis upon necessity, its insistence upon the *a priori* character of the forms of knowledge, and its deduction of the transcendental categories of thought? I do not desire to overlook or to minimize the unpragmatic character of this side of Kant's thought. I simply wish to remark that when the situation which he faced and the dominant interest which controlled him are considered, the contrast between him and the pragmatists even here is seen to be less complete than it seems. It is to be observed that Kant was awakened by Hume from the rationalism of the Wolffian school, which taught that knowledge is possible apart from and independent of experience,

that it may be the fruit solely of "pure ideas of the understanding" (to quote Kant himself), an assumption which led to intellectualism and absolutism of the most extreme type. Against this Kant protested earnestly and insisted in opposition to it that no *a priori* knowledge of any kind is possible, that knowledge can not exist apart from experience and independent of it. What he did, as a matter of fact, when Hume's challenge awakened him out of his dogmatic slumber, was not to meet Hume's scepticism by the rationalistic method of setting up a scheme of *a priori* and necessary truth independent of all experience, but on the contrary to turn to experience itself and analyze it. In so far he was as radical an empiricist as Hume himself. The *a priori* forms and categories of thought are given only in experience. To be sure, they are not the fruit of experience, they are its pre-conditions. But apart from experience they are wholly unknown and have neither significance nor reality. They are, indeed, experiential forms, not in the sense that they are *a posteriori* and derived from experience, but in the sense that they have to do only with experience. Kant's analysis of the process of knowing may be regarded as sound or unsound. In any case, it looks unpragmatic in its outcome, for it finds elements which are not in any sense either directly or indirectly the fruit of experience and which can not be explained by it. But this should not blind us to the still more significant fact that he discovers neither these nor anything else anywhere but in experience. The limitation which he put upon the pure reason, denying that it could transcend experience, is as essential a part of his "Critique of the Pure Reason" as the powers he assigned to it, and when one takes it in connection with the "Critique of the Practical Reason" which follows one must say an even more important part.

It is to be noticed still further that the necessity which attached to the *a priori* forms and categories, and upon the importance of which Kant laid so great stress throughout his discussion, was not the necessity of a transcendental object or system or scheme of truth. It was simply a necessity found, so he thought, in experience (though not deducible from it) and valueless beyond experience or independently of it. He admitted that other beings might have other laws of thought and their knowledge exist under other conditions. That is, the necessity which he ascribed to the forms and categories was a necessity observed in the actual phenomena of human knowledge and therefore properly assumed there, but only there (compare "*Fortschritte*," p. 92). It was not a necessity which could be used for the construction of a world of objects or ideas transcending experience and unrelated to it. Kant's categories of thought were purposive in character, existing to meet the demand of the human mind for order-

liness and sanity, and his failure to investigate their genesis and his use of the unpragmatic term *a priori* in connection with them should not mislead us as to the real significance of his position. His interest was not that of the intellectualist, to reach absolute truth to set over against the unreal world of shifting experience, but rather that of the empiricist to account for and explain experience. How are synthetic judgments *a priori* possible? This was the problem of his "Critique of the Pure Reason." In other words how are certain given facts in experience, for so he understood them to be, possible? The difference between him and the pragmatists, after all, is at bottom a difference in their respective interpretations of experience. He interrogated it as eagerly as they and he refused as firmly as they to go beyond it. As between the empiricism of Hume and the intellectualism of the Wolffian school he belonged with Hume. And still more emphatically as between the pragmatists of to-day and the intellectualists of either the Bradley or the Royce type, against whom they chiefly fulminate, he belongs with the pragmatists. Kant was an anti-sceptic but not an anti-empiricist. Certainty he did seek over against the scepticism of Hume, but he sought it in and for experience, not apart from it and not for other and transcendental purposes. His protests against the idealistic development that claimed to be the legitimate fruit of his philosophy are familiar to everybody. He had no sympathy with that development. On the contrary, his interest was quite the reverse and his "Critique of the Pure Reason" should itself have made it clear even had not the "Practical Reason" and other later works followed.

It would be too much to call Kant a pragmatist. There are too many unpragmatic and anti-pragmatic elements in his system, and not a few important features of modern pragmatism come from influences that have arisen since his day. But the pragmatists are his true successors and not the intellectualists or absolutists of one and another type. It is he that has made pragmatism possible, it is he, indeed, that has had, more than any one else, to do with making it actual, and of all modern thinkers the pragmatist should be the last to say that "the true line of philosophic progress lies not so much *through* Kant as *round* him to the point where now we stand."

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SOME NEGLECTED PARADOXES OF VISUAL SPACE.[1] IV

IN the matter of correspondence between the image on the retina and the form or pattern perceived by the owner of the retina, the biologist's dilemma shows up at only half-length, but already awesomely enough. If, following a Kantian like Driesch, he regards space as a hyperchemism,—that is, as a product of two noumena neither of which is spatial any more (and presumably even less truly) than oxygen is water,—then how does it happen that the very sense organ which specializes in the manufacture of the raw noumenal material out of which the Ego produces space chooses to take on such a structure and materiality that, from the point of view of another observer, it anticipates, at a given point in its mechanism, the very space form which, at a later step in the *a priori* synthesis, becomes an experience? The complete idealist can not say, with Professor James, that we have to do here with a mere coincidence, a misleading accident; for, note well, if the idealist agrees that the eye is the mechanism of space-sensing, he really is condemning himself to say that in reality the eye is itself spaceless—or, what amounts to the same thing, that it is spatial only as a phenomenon, only in so far as somebody is seeing *it*, and not in so far as it is an instrument in producing vision. I fear this does not impress most idealistically inclined biologists as an inevitable result of their position, nor yet as a very serious one. But I think it is both.

To hold at one and the same time that there are organisms living in some kind of an environment and that space is only phenomenal, one must go the full length with Driesch and agree that the real ultimate agents in such a world are themselves spaceless; and it is greatly to Driesch's credit as a consistent thinker that he has not shirked this conclusion. It must be admitted, in all logic, that the organic structures which we seem to perceive as extended and very nicely differentiated with respect to position, size, form, etc., are not actually extended, but simply have a nature that, when conjoining noumenally with a noumenally distinct Ego, produces the appearance of extension. The retina, therefore, possesses a most amazing capacity, putting to shame all the creatures in Alice's Wonderland. For, being spaceless, it not only manages to manufacture, or assist in the manufacture, of space; but, in so doing, it takes on the appearance, not of manufacturing the space which its owner eventually perceives, but of copying that space from some noumenon! Of course, it can not be copying a phenomenon, inasmuch as a phenomenon exists, by definition, only inside of some Ego's consciousness

[1] Read in part before the American Philosophical Association at New Haven, December, 1909.

system. So far as I can follow the idealist through this Cretan labyrinth, and see his way as I stumble along, he seems to be proving that the retinal image is neither truly a phenomenon nor yet a noumenon. For once admitting, as I suppose he does, that the retina and its disposition at the moment has some reality above pure illusion, he must say that the image, from its owner's point of view, is neither the object seen (*e. g.,* the phenomenal tree), nor the noumenal entity (the tree in itself) nor yet the spaceless noumenal perceiving Ego. And, from the point of view of an observer with an ophthalmoscope, that same image is neither the phenomenal nor the noumenal tree that appears to the owner of the retina.

I envy the thinker who can make sense of all this; and yet it states the idealistic position quite fairly, I think. But the gravest difficulty is not yet; it comes with my attempt to understand how a Kantian biologist conceives the correlation and differentiation of optic parts. If he considers the eye as really, and not only in a phenomenal way, the medium of effecting the *a priori* synthesis resulting in visual space, he must concede a most mysterious effort or tendency in the vital force to mould, not only the retina, but the whole optic apparatus, so as produce not only the feeling of space in the individual, but also the mere appearance on the retina. In other words, the crystalline lens, the cornea, and the aqueous humors all cooperate, to all appearances, to produce, *somewhere else in space,* namely, on the retina, a spatial pattern which should be the same phenomenally as another thing *somewhere else in space* appears to the owner of the retina. And all these organic parts do this as a matter of metaphysical fact in a spaceless world; as agents existing somehow prior to the *a priori* synthesis, they are not spatial nor in a space. They cooperate, they adjust themselves to each other and to the external world, they yield to the supposed necessities of optics, not because they are really outside of one another, not because the organism as a whole needs to behave agreeably with its environment and to control and modify spatial things; but they cooperate either for the purpose of producing their own mutual externality and the external environment or else without this purpose but with the same result.

There is, I feel, a certain unclarity in this statement, due to the fact that we are dealing with one and the same sense-organ (and that one the space specialist); one might say that just such odd coincidences should be expected in a structure which, seeing all things only under the guise of space, happens to have the knack of looking back upon itself. There would be paradoxes, of course. And a small concession in favor of dualistic representationism would wipe them all out. For example, a defender of the "local sign"

theory might grant, as a biologist, that there is some cosmic peculiarity to which the space we experience corresponds more or less asymmetrically; and yet, at the same time, he would deny both the moderate and the radical beliefs of natural realism, viz., that the perceived spaces somehow copy the objective or that they actually *are* the objective in a peculiar setting. The absurd descriptions of the retina just given must then be stricken out; the eye spreads out in reality, only its outspreading is there not the kind of externality that we sense with the eye itself. Vision is a translation of that objective outspreading into a unique, incomparably different kind, the kind we knew as psychic. And yet this mental projection can steer its owner about in the world passably, if he but learns how to use it. It is an admirable instrument for navigators, but is no more cosmic space than a sextant is the pole star. This compromise is worthy of a Talleyrand: it enables the Kantian to keep his *a priori* syntheses and his Ego; it leaves to the naïve man his real objective world and his live, efficacious contact with it; and it builds a wide platform for several schools of humanism and pragmatism. It is more than a master-stroke of diplomacy, too; many are the philosophical questions which it settles without a hitch. But there is at least one great fact into whose face it can not look, and that is the imitative reflex, which nothing short of radical natural realism of the naïve type can make intelligible.

Smile at a young child, and the child smiles back. Frown, and the child frowns. When the child is somewhat older, you may make it respond with approximately the same tone or noise to the sound you utter in its presence. In a normal child, the accuracy of this response increases rapidly after the seventh or eighth month of life, so that in the tenth month, according to Preyer and later investigators, all kinds of imitation are easily performed. I need not drag you through the enormous latter-day literature on sociology, collective psychology, anthropology, and—above all—linguistics in order to echo the now familiar proofs of the leading part such imitation plays in the upbuilding of social institutions, types of belief, language, art, and so on. The general facts, which tempt some thinkers to view all mental life above the sense level as a mere blossoming of that one same primitive imitative reflex, may here be accepted as quite as clear and as certain as any empirical data can be. Most of us can verify them directly in our own lives *ad libitum*. And many of us, I fear, have often made the painful discovery that our most brilliant and original ideas, punning or philosophizing, are but deferred reflexes, giving back to a later hour other people's thoughts which we have loved long since and lost awhile. Now, it is precisely

the biologist—or his blood-brother, the genetic psychologist—who insists most earnestly that a theory of knowledge which is to be worth the fashioning must, if it does not grow out of just such empirical facts as this, at least reckon with all of them, giving each a place in its resulting system. Let us first try to decide what is the very least that must be done with the imitative reflex.

Accidental the correspondence between retinal image and perceived form may be; but the very suggestion that mere chance has brought about the correspondence between a perceived form, motion, or sound and the form, motion, or sound produced reflexly by the percipient as a result of his perceiving the former—that suggestion, I say, simply proposes the total abolition of science and scientists. For we have to do with a mechanism of the most astounding complexity, which appears in multiple forms in a single organism, and which exhibits the correspondence, not inside the process of producing a single sense quality (as in the case of the retinal image), but *between the end terms of a process involving several, often many, different organs.* I shall consider each of these aspects of the situation in a moment; just now let me emphasize the three-fold improbability of mere chance. Chance would not be a wild explanation, if we found only an occasional individual copying a feature of his environment; but millions of men and lower animals do it regularly. Chance would not be absurd, again, if in all these millions there were only a few occasional imitative reflexes recurring with neither observable rhyme nor reason, now in one sort of situation and now again in another; but such acts happen in almost every hour of normal life among anthropoids and men, from the drum concerts of the chimpanzees up to the sentimental young novel reader who weeps with her heroines and gnashes her teeth in baffled rage with the imagined villains of the printed page. And, finally, chance would not outrage us as a hypothesis, if there were but one very simple mechanism, operating with some very limited group of peripheral stimuli, which produces the reflex in some one part of the body; but the entire muscular system of every well-ordered human being is subjugated to a mechanism that on the other side connects with the retina in such a manner that some appropriate limb or set of other muscles reproduces, after its own way, in postures or in movements, the form or the path of seen things and acts. Less comprehensively but with equal or even rarer delicacy, the basilar membrane and the laryngeal muscles are likewise joined up in a copying machine which tends to give back to the outer world a faithful echo of the sounds which that world has given it. At once general, constant, manifold, and inconceivably intricate, can this function be

rationally set down as a mere chance producer of imitations of its own stimuli? Not unless its critic were to surrender every accepted scientific method. That interpretation becomes still more hopeless when we consider that reflex imitation, by and large, grows more refined and more general as the organic type improves (*i. e.*, becomes more sensitive and more adaptive). Any theory of knowledge, then, which a biologist who does not desert his own science will accept must look upon the reflex as designed (not necessarily in any finalistic manner, to be sure) to reproduce in organic matter certain geometrical features of physical things which affect the organism through certain media.

But before considering what such a theory of knowledge may be, I find it unavoidable to describe what the reflex does; for, though psychologists by the legion have analyzed, charted, genealogized, and otherwise dissected it, none has, to my knowledge, pointed out just those features and steps which are most relevant to our presnt purpose. Professor Baldwin has dwelt at some length upon the muscular reaction which either reproduces or retains its own stimulating conditions; but the details, no less than their meaning, he has not elaborated at all so as to disentangle a theory of knowledge from them. Lipps, I believe, is the only philosopher who has so much as skirted this particular territory (if this is not true, I should greatly appreciate correction); but his interest has been chiefly an esthetician's, so that the peculiarities which he has briefly noted in his various writings on *Einfühlung* have never been brought to bear upon his or anybody else's theory of knowledge. By all odds the most significant peculiarity, however, has not been even mentioned by him or anybody else; I refer to the fact that *the imitative reflex set up by perception of visual space forms and movements is an imitation which the imitator himself either can not normally perceive at all or which he perceives only indirectly.* Recall our illustration. If you smile at a child, the child smiles back. What has happened? A certain arrangement of light waves, striking the retina, sets up a neural current (or whatever you choose to call the organic disturbance) which, after various wanderings and vicissitudes, pulls the child's facial muscles in such a manner that, to an observer, the arrangement of facial lines appears very much like that of the lines in the object which the child is perceiving. But the child himself does not see his own facial muscles. He does not know that they take on this imitative pattern until he has patronized the family mirrors and duly compared the architecture of his grimaces with that of the things he reacts to. We may marvel, with Lipps, at the inconceivable, baffling complexity of such a reflex; but such wonder is quite beside the point and a weak thing when we

weigh the epistemological implications of the happening. Put these in the language of ordinary scientific realism, and they are, I think, decidedly more startling than all the antinomies of Kant (which, it may be well to remark in passing, are antinomies only if their reader accepts in advance the very idealistic epistemology which their existence is supposed to force upon him). What have we, if not a physical complex reproducing itself in another physical complex through the same medium and mechanism which somehow produce experiences of the first complex? What, again, if not that this reproduction, or self-copying, is originally not given in direct empirical form to the medium of reproduction, but can only be discerned by a second party? Consider what problems this situation brings.

In terms of cause and effect—if I may assume the propriety of the category, as every natural realist must—the process just described is a genuine reflection, or perhaps more exactly a deflection, of one material order into another through an intricate series of causal steps in a nervous system; the character so deflected being only the pure geometrical form of the peripheral cause. What, now, are the causal steps to this consummation? A fair answer, it seems to me, puts the whole psychophysical issue on a new level and in a better light. Ignorant as we all are of the private adventures of a nerve current on its course from retina through cortex down to muscle, we must say that somewhere and somehow the geometrical pattern of the retinal stimulus is thrown back and down a motor tract in such a manner that certain muscle fibers stretch and relax so as to group themselves in the pattern of the first stimulus, enormously magnified and, of course, considerably blurred through the appallingly complex "refractive index" of the heterogeneous medium. The biologist and everybody else who seeks to explain organic phenomena first of all naturally, which is to say in terms of the categories under which they appear, ought long ago to have sensed the irrelevance of the stock mind-body puzzle, when viewing the imitative reflex. However pertinent to biology, psychology, or metaphysics the question whether ether vibrations cause sensations or are merely parallel to psychic epiphenomena, it is hardly worth discussion until the facts of organic *conduct* have been broadly surveyed and conscientiously interpreted in terms of the purposes that conduct serves, either actually or in aspiration.[2] And when, beginning at the first basic type of behavior which most sharply distinguishes the more perfectly from the less perfectly adapted and efficient or-

[2] The pragmatism which identifies itself with this scientific method and with nothing save what that method implies must stand, it seems to me, forever unassailable against all critics.

ganism, namely, this same imitative reflex, the biologist turns psychophysicist, he ought easily see that the relation of physical stimulus to "mental state" is, for all theory, secondary to the relation between the undeniably physical end-terms of the simple sensory-motor imitation. For we can not, without fleeing the whole evolutionary point of view, doubt (much less deny) that the motor reaction here, as everywhere else, indicates or contains more fully than does the sensation the purpose, suitability, or other significance of the single process of which both are but phases. For it is the final set of the body that constitutes its adjustment to the environment, whereas the sensation is either a mere intermediate step toward that adjustment or else a device for retaining and recalling one or both of the end terms of the process (*i. e.,* for entering the stimulus, so to speak, as a constant determinant or a suitably recurrent determinant of later reactions, and for releasing it in such).

Admit this, and at once the physical or unique nature of the sensation becomes a matter of immediate indifference. For of one supreme fact the biologist is sure, to wit, that the result, the outcome of the whole intricate process is a physical reproduction of a physical feature of a physical stimulus. Either alternative of the usual psychophysical dilemma, then, is equally agreeable to a biologist seeking a theory of knowledge: if, on the one hand, muscular imitation is caused by the sensation complex, then the latter is precisely what the naïve man believes it to be, namely, a peculiar preservation of a peripheral energy pattern; and if, on the other hand, the sensation is epiphenomenon, the muscular imitation being caused directly by the stimulus and without the contributory influence of consciousness, then the sensation is still a copy of the stimulus, but in a different order of existence; *for the percipient can make another stimulus which brings about the same sensation complex, under the same conditions of observation, and he makes it by the mere act of thinking of the original sensation complex and letting his muscles react imitatively.* In other words, you or I can readily put on the mien, air, or gait of somebody whom we saw last week; that is, by the sole aid of the experience, we can manufacture out of our own bodies a physical form or movement which, affecting your or my retina (say *viâ* a mirror), brings to pass an experience like the original. I, for one, can not imagine how such an experience, be it epiphenomenon or potential energy or what not, can turn its own mysterious force, its moulding power, back into the world of nerve and muscle fibers and in any manner arrange these spatially so that, as a total retinal stimulus, they bring about a copy of the instigating experience, unless this latter *somehow* matches its physical peripheral determinants. This conclusion would not force itself

upon me so tyrannically if the stimulus were reproduced directly in the retina itself; for then it might well be that what seemed to be a second stimulus was really but a revival of the first in the retina. But the matter out of which the duplicating stimulus is actually fashioned is not simple ether vibrations; what the memory directly manufactures is a *cause* of such vibrations, a form which will reflect light so arranged as to produce a geometrical pattern on the retina like that which gave rise to the original instigating experience. Here the imitator passes by a most circuitous route from an experience—call it an idea, if you will heighten the difficulty for the Kantians—into the physical order which is moulded *unconsciously*. And the resulting organic form is not a duplicate of the light waves; it is a physiological arrangement, a bundle of variously differentiated bioplasms, which *reflects* light waves so that the latter, stimulating the retina, duplicate the original percept. To repeat, then: either the whole reflex is but a further developing and a specialized reflecting of the physical stimulus, all done in physical terms, in which case the perceived form is only a peculiar reproduction of the stimulus; or else the perceived form is epiphenomenal, but nevertheless is somehow so much like the physical occasion of its existence that it can descend, like some Olympian god, to the crass world of atoms and molecules to shape these, as the potter his clay, into an image of its own material progenitor. The statue of Diana falls from heaven; but no matter how long its descent nor how coarse the marble, its form is the form of the huntress, though she is neither stone nor an Ephesian. Choose betwixt these alternatives as one will, I do not see any escape from what is virtually the "copy theory" of knowledge entertained by the naïve realist.

Before passing to the acute stage of the biologist's dilemma, let me note that the latter is not relieved in the slightest degree by any genetic or voluntaristic account of the origin of the imitative reflex. And here the biologist himself should be the first to detect the futility of that pseudo-pragmatic method which would explain away all difficulties simply by showing whence they come. For suppose he try to interpret the reflex as a by-product, say, of the associative process. He might then be able to show how, by natural selection, or by specific resistances of nerve tracts, or by some other device, the particular muscles come to respond imitatively to the correct visual pattern. But what of it? At some moment, in some of the reacting muscles and nerves, the imitative reflex first develops; and there you are! Be the conditions of its working what they may, the crucial point is that it *works!* The stimulus *is* reflected. And the same occurs, if the biologist talks of an *élan vital,* or an unconscious will, or a psychoid, or any other primordial cosmic drive. What-

ever the thing is which strives to copy, and whatever the implements it forges to its end, when all is done, you have on your hands a cosmic mirror. And it is just this mirror and it alone with which any scientific theory of knowledge must be concerned. Theories of being and of becoming may have their turn, but later and in their proper place.

And now, let the biologist face his dilemma squarely. He, like many eminent leaders of other natural sciences, has recently leaned sharply toward Kantianism. The genetic psychologist has encouraged his inclination, and the majority of contemporary philosophers welcomed him as one of the few elect who have stripped the scales of common sense from their eyes. As a rule, he has taken up idealism, if not half-headedly then surely with little zeal for reading its tangible consequences to biological theory. For, had he even glanced at the imitative reflex as a biological fact to be fitted into an idealistically grounded hypothesis of evolution, he would have discovered—I should suppose—at the very first that, having accepted that reflex as a fact and not as an illusion, he must either cast off idealism and hold to biology or else reject all biological explanations now current and cling to Kant as the one and only god of genuinely philosophical science. And the reason for this hard choice is briefly this: all the problems of life which biology is trying to solve either are or involve problems of getting along with space and with time; idealism, denying the objective and independent reality of space and time, though, can not consistently look upon these problems as the incentives or causes of the evolution of mind or generally of conscious organisms in which cellular structure grows to suit the feelings of the creature, *because the very situation which makes the problems is itself a product of mind living in a spaceless world.* A word or two to make this clear.

If evolution is in some sense genuine, there are three possible ways of regarding the problems of space and time which are somehow apparently connected with the direction of organic adaptation: (1) They are just what we take them to be; (2) they are curious by-products of some noumenal situation, presumably a noumenal conflict, but in no wise representing the nature of it; or (3) they are a phenomenal projection, a representation, in a different order of existence, of their inciting noumenal situation. The first view no idealistic biologist can tolerate, of course; while the third, being representative realism, is scarcely more endurable. The second alone is hospitable; it is, I fancy, the opinion which Kant himself would have accepted, not if the question had been put to him point-blank in his scientific days, but probably if he could have returned to cos-

mology after his Critiques. By it, we may conceive in the crude, misrepresentative imagery of phenomenal experience, that there is a Bergsonian vital force trying to be happy in a stubborn environment where there is neither up nor down, nor right nor left, nor north nor south. It struggles, but does not move; it works out its own salvation, but there is neither bird in the hand nor bird in the bush for it, inasmuch as its ideal is neither here nor elsewhere. But, struggling after its own transcendental fashion, it collides, not at all geometrically of course, with its environment, which, one must understand, is neither outside of its noumenal skin nor inside it; and from the hard encounter flare up all the starry reaches, much as bright sparks flash up when steel meets flint. How read the imitative reflex, then? Remember, first of all, that appearances do not produce appearances, but are all themselves outgrowths of *a priori* syntheses. Causation is not given to us from without, so the Kantian sometimes puts it; which is only a special phrasing of what we have just said. Therefore, in none of the sensations of an imitative reflex can anybody find even a trace of the cause of the procedure. Consider, now, a small boy mocking the solemn countenance of his grandfather. The spatial form the mocker perceives in no wise represents the peculiarities of the real cause of either the perception or the motor discharge which copies that form. But this is not the strangest phase of the puzzle. Most of all must we marvel at the fact that the noumenal factors making the first appearance (*i. e.*, the face the boy sees) work upon *other* noumena so as to force these to produce *another* appearance (*i. e.*, the boy's grimace), but all to no purpose to the noumena themselves, inasmuch as these appearances do not make the noumena's environment more comfortable. The biologist must look at the situation as analogous to one in which a man, while trying to catch a street car, grows very red in the face. The color is produced by his adaptation to a specific environment; but he is not adapting to redness, he is trying to get himself into the most useful space at the most useful time, and the flush in his cheeks is only an unserviceable and not at all pictorial by-product of his striving. Logically, then, though in no other sense, the noumenal parallel in the case of the imitative reflex would be somewhat as follows: it would be as if a noumenal man, running for a noumenal car, and growing noumenally red thereby, were to compel certain of his fellow-citizens also to grow red in their respective faces, whether they wanted to catch a car or not. And, yet, though the flush served none of these parties but was a mere sign of the heat of somebody's efforts reflected in the body politic, nevertheless the colors were enabled to get along with one another and in the world of useless

noumenal by-products much more agreeably as a result. Was ever such a preestablished harmony dreamed of by any Leibnitz?

Need we be surprised that consistent idealistic biologists like Driesch have, more by instinctive fore-fear than by reason, said farewell to current biological methods and explanatory categories? Adaptation, natural selection, and all the other concepts of Darwinism and post-Darwinism lose meaning in the face of such a situation.

But now for the strange logic of your idealistic biologist. Complain as Driesch will about the futility of every biological theory which explains organic structures and organic behavior in terms of space, he is still quite willing to accept the threading of chromatin in the nucleus of a cell, its symmetrical division between the centrosomes and the final complete cleavage of the whole structure as evidence that an entelechy is busy, trying to "get somewhere"! And every morsel of fact to which he appeals for proof of vitalism in his study: "Die Lokalisation morphogenetischer Vorgänge," and in his two volumes on "The Science and Philosophy of the Organism" tells us likewise about changes of form, changes of diet, changes of position, changes of direction of motion—in brief, about the moving of extended things by a vital force which manifests itself and its plans in these very displacements. Here, then, we are confronted with a curious spectacle, that of a scientist rejecting the realist's view of space out of respect for a hoary metaphysic, and in the next breath accepting space as the scene in which the entelechy not only finds its problems but works out its own salvation! Far be it from any fair critic to hold the Heidelberg biologist up to ridicule on this score; the only difference between him and all other scientists who turn tender glances toward the "Critique of Pure Reason" is that he has thought out his position to the bitter end and has not scrupled to lay bare its final results in all their weakness. The dilemma of biology is written clearly across Driesch's pages, and no idealistic Belshazzar need summon a Daniel to read its message. It comes to this, and to nothing more: If you want an entelechy or an *élan vital* or *any* law or force that explains the course of organic life, you must accept the products of this life, its structures and its instruments, as somehow expressing its problems, as well as their solutions. If they do not exhibit the difficulties of existence and the goal sought, then no human being has any right to suppose that there are any real issues to be met by any body or any thing. A child's cry for milk discloses not so much as a blind will, if the position of the milk with relation to the child's stomach is not real and vitally important quite apart from the child's space-experience. If space is only a synthetic judgment *a priori*, if consciousness of space is only epiphe-

nomenal, then whoever takes pains to feed the child—or to feed himself, for that matter—is pottering at something a little less fruitful and dignified than a jig-saw puzzle.

Grant, though, that any and every biologist must read off his philosophy of the organism from the observed form and conduct of the organism itself, and grant, secondly, that any interpretation of life is at least a legitimate enterprise; then, as a matter of scientific method, you have dismissed forever all idealists from your councils. For you have agreed with the philosopher's clown, the dull man of common sense, that the vexations stirring all of us to action are the vexations we sense, perceive, reflect over and plan about, namely, situations in space and time; and that the changes we effect in our surroundings and in ourselves are really those which solve our problems. And, having gone this far, how in Heaven's name are you going to hold aloof from some variation of that much despised "copy theory" of knowledge? Even concede to the idealists all the noumena they yearn for,—noumenal egos and things in themselves; grant them too their ideals of God, freedom and immortality: still we can discern or conjecture these forces and aspirations only in so far as they are really at work in the world of space which we perceive; and, in this world, they have purport and are intelligible only to the extent that they are there confronted with real difficulties which are to be overcome only through real readjustments of position, form and movement. In other words, the Christian Scientist alone is entitled to say that the problems of the here and the there, the now and the tomorrow, are not real for the vital force, if such there be, which gives rise to consciousness. Everybody else, even the absolute idealist, must recognize that one must choose between no evolution at all and epistemological realism, at least so far as space is concerned.

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DISCUSSION

IRRATIONALISM AND ABSOLUTE IDEALISM

PROFESSOR MONTAGUE, in his admirable criticism of Professor James's "irrationalism," writes as if that criticism were justifiable only from the point of view of the realist. A few verbal alterations, however, to statements all of which appear on page 149 of the article in the JOURNAL, will render that criticism just as valid for the absolute idealist. The *objective* idealist does not "admit

that there are as many objects as there are witnesses," and that therefore "if the world is objectively one system of facts" there can be "only one real self or witness—the absolute—of whom we finite selves are the mere appearances": he does insist, however, that there is only one perfectly complete and accurate "witness—the absolute," which as spiritual-world soul sums up and integrates the finite selves after a metaphysical manner, just as the Fechnerian physical-world soul is supposed to do after a psychological manner. The absolute, like the reading teacher, "sees the letters and words which the child [the finite self] sees, but he sees also the sentence which the child does not see." His world is not a different world from that of the finite self, but the same world seen both "collectively" and "distributively," and therefore completely instead of fragmentarily: for what is seen distributively only is thereby seen only fragmentarily, and *so far* falsely—just as every half-truth is *so far* error; but what is seen distributively *and* collectively is thereby seen in its wholeness. The distributive is not "mere appearance" and wholly false, and the collective the only reality, but it is the vision of things collectively that gives truth to what is lacking to the vision of them merely distributively. True, "the experience of a whole is not numerically identical with the experience of its parts," but it *is* identical with the experience of the parts *plus* their wholeness. True again, "the experience of a table as merely round and hard is not identical with the experience of it as old and valuable"; but the experience (as by the absolute, or any complete, all-round witness) of a table *qua* table (*i. e.*, in its wholeness) *is* identical with the experience of it as at once round, hard, old, valuable, and all the rest.

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SOCIETIES

SECTION OF ANTHROPOLOGY AND PSYCHOLOGY OF THE NEW YORK ACADEMY OF SCIENCES

THE Section met at the American Museum of Natural History on November 22, 1909, at 8:15 P.M., in conjunction with the New York Branch of the American Psychological Association. The following papers were presented:

Some New Data on Fatigue: Professor EDWARD L. THORNDIKE.

Sixteen subjects worked from 300 to 700 minutes with no rest or only a short rest for luncheon. The work was the mental multiplication of three-place by three-place numbers. Each subject was

tested again after a rest of twelve hours or more. The loss in efficiency was not great, being more than counterbalanced by the practise effect, and was not closely correlated with subjective estimates of fatigue.

A Preliminary Report of a Statistical Study of Association: Dr. A. J. ROSANOFF and Miss GRACE HELEN KENT.

With the object in view of deriving a normal standard of association to be used in a study of disturbance of flow of thought in insanity, the authors applied Sommer's association test, in a form modified by them, to one thousand normal persons. In their attempts to analyze and classify the results, they found it necessary to depart from the methods of grouping reactions which had been generally in vogue, but found that for their purposes the most useful distinction was that between *common* and *individual* reactions. With but few exceptions, records from normal persons contain not over ten per cent. of individual reactions. In cases of insanity, over fifty per cent. of individual reactions were frequently obtained. The distinction between a common and an individual reaction can be readily made by reference to the tables compiled by the authors on the basis of the thousand normal records already referred to. The authors believe that the diagnosis of incipient insanity in backward school pupils or in eccentric persons will be aided by the use of their tables, and that possibly the study of normal mental development may also be aided. The results of the work on association in normal persons are being prepared for publication.

An Attempt to Standardize Certain Tests of Controlled Association: Professor R. S. WOODWORTH.

This work was undertaken with the cooperation of Dr. F. Lyman Wells, under a committee of the American Psychological Association. The object has been to make a careful selection of the material available for tests of controlled association, where the measurement is to be in terms of time. Some of the tests selected, and others in process of selection, were presented.

The Meaning of the Association Test: Dr. FREDERICK LYMAN WELLS.

A study of the time relations in the word list of Dr. Rosanoff and Miss Kent. The reason why free association time is longer than controlled association time is not an intellectual but a volitional one. The task of deciding on a suitable response is much greater in free than in controlled associations and to this the longer times of the former are essentially due. This difficulty of decision may be described as the product of striving for a response that will seem sufficiently dignified, or for one that shall not betray something which it is desired to hide, or as a product of distraction induced by special

interest possessed by the stimulus word. Those individuals who decide on their responses promptly have short times and closely packed distributions; long times and variable distributions are seen in those who fumble with the experiment, and hesitate about which is the best response to give. In respect to this variability the fifteen women subjects fell into two species, eight being below and seven above the central tendency of the ten men subjects. The median times of the individual words in the list range from seven to twenty fifths of a second. Out of the 2,500 associations, 90 were ten seconds and over in length, the women giving proportionately three times as many of these as the men. The rôle of special "complexes" in these reactions was probably a very subordinate one. What is measured by the free association time in the conventional psychological test is, in effect, the ability of the individual to make prompt choices and decisions under the experimental conditions imposed. The sex differences here observed are probably secondary to the special conditions of the experiment.

R. S. WOODWORTH,
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REVIEWS AND ABSTRACTS OF LITERATURE

Knowledge, Life and Reality. GEORGE TRUMBULL LADD. New York: Dodd, Mead and Company. 1909. Pp. 549.

In this new volume, Professor Ladd has put "into semi-popular form the system of reflective thinking which has been evolved and published previously in separate volumes." The author refers the reader who desires a more detailed exposition and defense of his philosophic system, to these earlier monographs. In the present volume, however, frequent reference is made to his other books, and long quotations are taken from them.

Professor Ladd says, in the early pages of this last book: "If there is any kind of human undertaking for which one ought to prepare oneself by thinking soberly, long, and hard, it is writing or speaking on philosophy." Every one will admit that the author has himself most thoroughly complied with his own definition of the requirements of philosophic apprenticeship. But there is great danger that one may think too long, too hard, and too soberly and come to take himself and his profession so seriously that he is unable to express himself with the brevity and simplicity necessary to command the interest and attention of his readers in these busy times. The essential doctrines of the author are submerged in the stream of technical philosophic vocabulary, of which he is so eminent a master. The style of the author's previous volumes has invariably been criticized as heavy and involved. This is also one of the principal objections to be brought against his last book. The general reader who is

looking for a "semi-popular" discussion of the problems of philosophy may easily become discouraged before reaching the end of the first chapter.

The volume contains twenty-four chapters, as follows: Philosophy: Its Conception and its Problems; Philosophy: Its Method and its Divisions; Schools of Philosophy; Philosophy of Knowledge: The Psychological View; Kinds, Degrees, and Limits of Knowledge; Principles and Presuppositions of Knowledge; Scepticism, Agnosticism, and Criticism; Metaphysics, as a Theory of Reality; Nature and Significance of the So-called "Categories"; Philosophy of Nature; Philosophy of Mind; Matter and Mind: Nature and Spirit; Ethics, or Moral Philosophy: Its Sphere and Problems; The Moral Self; The Morally Good: Its Kinds (The Virtues) and its Unity; Schools of Ethics; Æsthetical Consciousness; The Arts: Their Classification and Nature; The Spirit of Beauty; Philosophy of Religion: Its Origin in Experience; The World-Ground as Absolute Person; God as Ethical Spirit; God and the World; Summary and Conclusion.

These chapters, as one might infer from their titles, are not mutually exclusive. There is much repetition, both of form and matter, in the volume, and the general reader who is led by the title and preface to expect a summary popular discussion of the fundamental problems of philosophy will be disappointed. The author has not seriously changed his view of life, knowledge, or reality, in the present volume. Pragmatism has come into the philosophic arena, since Professor Ladd printed his last volume, but he gives merely a passing notice to the new philosophy. He says: "The very foundations of so-called pragmatism, with its foolish fury toward the systems called by their older and more respectable names, are themselves laid in rationalism and idealism. The truths have all of them long ago been duly incorporated, as fragments, into both these so-called schools" (p. 37). And again: "To men who do not care to think, pragmatism may appear the least expensive, through-express route to the terminal station, whose station-master is the realized hope of the ages" (p. 55).

Although the author allies himself unequivocally with the anti-pragmatists, yet many other passages might be cited in which he announces doctrines that resemble very closely the more conspicuous teachings of pragmatism. *E. g.*, "Philosophy, like science, is an affair of development, the conclusion of which can not be foreseen in time; and the final form of which can not be predicted with precision. Hence the need which modern philosophy has of the particular sciences in their modern form is urgent and indispensable" (p. 12). "It would seem plain, then, that modern science and modern philosophy are reciprocally dependent, and in constant need, each of the other. Philosophy needs the spirit that applies the scientific method to all the ascertained truths and veritable conceptions, which the particular sciences can impart" (p. 19).

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Proclus's Metaphysical Elements. Translated from the Original Greek by THOMAS M. JOHNSON. Published by the author: Osceola, Mo. 1910. Pp. xvi + 201.

Under this title Mr. Johnson—the Thomas Taylor of our time and country—has added to the useful "Bibliotheca Platonica" which he has been publishing at intervals for a number of years, a translation of the "Institutio Theologica" of Proclus. By reason of its combination of completeness and systematic arrangement with comparative brevity, this treatise was, perhaps, historically the most influential and important of the expositions of the Neo-Platonic metaphysics, and especially of the system of emanationism. It contains in compact form and in a technically careful formulation the more fundamental ideas underlying such important medieval writings as Dionysius Areopagita, the "De divisione naturæ" of Erigena, and the "Liber de causis"; and it is no far cry from the "Institutio Theologica" to Bruno's "Della causa, principio ed uno" and the first part of Spinoza's "Ethics." Indeed, in the work of an eminent writer, which lies before me, bearing the date 1909, I find a struggle with the same problem, and somewhat the same result—a scheme of ontology at once monistic and emanationistic. But one is not sure that they did not do this sort of thing with the greater subtlety and ingenuity in the fifth century.

The treatise was translated by Taylor in 1792, and Mr. Johnson's version is based upon the earlier one, but somewhat modernized and corrected. Many of Taylor's notes are reproduced; the biography of Proclus which is prefixed is a paraphrase of the original "Life" by Marinus. Most contemporary scholars will be a little shocked by the complete absence of breathings and accents from the Greek citations; and some of Mr. Johnson's critical and historical views about Greek philosophy will seem to many to be of a somewhat too orthodox Neo-Platonic character. The student of the history of philosophical ideas in America will be interested in the fragment of autobiography in which Mr. Johnson tells of the sources of his enthusiasm for the Platonistic philosophy (pp. xiii–xvi). All save the comparatively recent manifestations of idealism in America—and, in particular, certain elements in what was called "Transcendentalism" and in the St. Louis philosophical movement—probably were due almost as much to direct or indirect influences from Neo-Platonism and the English Platonists as to Kant and his German successors. The extremely important rôle of Alcott in relation to both movements is the best evidence of this fact; and Mr. Johnson's account of his own intellectual history is a case in point. He learned idealism and epistemological rationalism first from purely Platonic sources; though he afterwards found much the same conceptions—with various additions and rephrasings—in the doctrines of the St. Louis Hegelians. To the late William T. Harris the present volume is dedicated.

ARTHUR O. LOVEJOY.

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JOURNALS AND NEW BOOKS

ZEITSCHRIFT FUR PSYCHOLOGIE. December, 1909. *Akustische Untersuchungen* (pp. 241–289): WOLFGANG KÖHLER. – Contraction of the tensor tympani occurs reflexly as function of the total energy of the impinging sound wave, and is independent of pitch differences. Amplitude is thus diminished and intensity correspondingly magnified. Helmholtz's theory of timber as dependent on intensity relation of partial tones confirmed for trumpet, bugle and trombone. A psychological theory of *Klangfarbe* and vocal character in terms of *Intervalfarbe* suggested, *Statistische Untersuchungen zur Sprachpsychologie* (pp. 290–311): PAUL KULLMAN. – A study of prose rhythm in Goethe, Schiller and Heine. The greater the average (m) number of syllables between accents (Z) the smaller the number of monosyllables and the greater the average syllable value of the vocabulary. The relation between m and Z follows mathematical, not linguistic nor stylistic, laws. Vocabulary of emotional text tends to be more monosyllabic than that of prose compositions neutrally toned. *Ueber die Bedeutung der Scheinbaren Grösse und Gestalt für die Gesichtsraumwahrnemung* (pp. 311–361): WALTHER POPPELREUTER. – Discussion of the various criteria of visual space perception, their relative importance, and methods of investigation. *Book Reviews:* Simbriger, *Zur Regulierungsfunction im Zentralnervensystem:* LAQUEUR. Spielmeyer, *Veränderungen des Nervensystems nach Stovainanästhesie:* LAQUEUR. Mingazzini, *Uber Symptome infolge von Verletzungen des Okzipitallappens durch Seschosse:* LAQUEUR. V. Kries, *Abhandlungen zur Physiologie der Gesichtsempfindungen aus dem physiologischen Institut zu Freiburg i Br:* NAGEL. Straub, *Uber die Atiologie der Brechungsanomalien des Auges und dem Ursprung der Emmetropie:* KÖLLNER. Bartels, *Ein einfaches Phorometer zur Messung latenter abweichungen beim Nabesehen:* FRANZ. Raehlmann, *Der simultane Kontrast im Farbenschein:* FRANZ. Rabinowitsch, *Über den gang der Schwellenempfindlichkeit bei Dunkeladaptation und seine Abhängigkeit von des Vorausgegangenen Belichtung:* FRANZ. Zoth, *Über ein einfaches Fallphonometer und die Bestimmung der Hörscharfe mit demselben:* LAQUEUR. Beyer, *Übersicht über die Fortschritte auf dem Gebiete der vergleichenden Anatomie des Mittelohrs:* LAQUEUR. Bezold, *Experimentelle Untersuchungen über den Schalkeitungsapparat des Menschlichen Ohres:* BEYER. Mackenzie, *Klinische Studien über die Functionsprüfung des Labyrinthes mittels des galvanischen Stromes:* BEYER. Hensen, *Die Empfindungsarten des Schalles:* KRUEGER. Yerkes and Berry, *The Association Reaction Method of Mental Diagnosis:* KOFFKA. Lucka, *Die Phantasie:* LUIKE. Ziegler, *Das Gefühl:* GROETHUYSEN. Dugas, *L'antipathie dans ses rapports avec le caractère:* GROETHUYSEN. Woetzoldt, *Die Kunst des Portraits:* COHN. Siebeck, *Grundfragen zur Psychologie und ästhetik der Tonkunst:* MÜLLER-FREIENFELS. Pikler, *Über Theodore Lipp's Versuch einer Theorie des Willens:* PRANDTL. Mauno, *Zur Verteidigung der Moglichkeit des Freien Willens:* LIPMANN. Hart, *A Philosophy of Psychiatry:* KRAMER.

Boschi u. Montemezyo, *Su la ecoprassia:* ALLERS. Jahrmärker, *Krankhafte Rausch- und Affektzustände:* SPIELMEYER. Meyer, *The Relation of the Auditory Center to Aphasia:* GOLDSTEIN. Prinzig, *Die Vererbung pathologischer eigenschaften:* SPIELMEYER. Heymans, *Über einige psychischen Korrelationen:* BAADE. Groos, *Das Seelenleben des Kindes:* WRESCHNER. Sikorsky, *Die Seelische Entwicklung des Kindes nebst Kurzer Characteristik der Psychologie des reiferen alters:* WRESCHEN. Wimmer, *Über Associationsuntersuchungen besonders schwachsinniger Kinder:* ALLERS. Ferriani, *Das Gefängnisleben der jugendlichen Verbrecher:* SPIELMEYER. Claparède, *Les Tropismes devant la psychologie:* FRANZ.

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NOTES AND NEWS

A JOINT meeting of the Western Philosophical Association, the North Central Section of the American Psychological Association, and the Teachers of Psychology in Iowa, was held at the State University of Iowa on March 25 and 26 with the following program: Friday, March 25, meeting of the Teachers of Psychology in Iowa. Subject of discussion, "The Psychology which is Required for the State Teachers' Certificate upon Graduation for College in Iowa." North Central Section of the American Psychological Association—"Mental Association in Children and Young Women," John A. Hancock, State Normal School, Mankota, Minn.; "The Problem and Content of a Psychology of Education," Irving King, University of Iowa; "The Thought Method of Learning," Joseph S. Gaylord, State Normal School, Winona, Minn.; "The Psychology Instructor's Problem in Iowa," Ed. Forest Blayney, Buena Vista

College; "A Test on Attention Value of Magazine Pages," Daniel Starch, University of Wisconsin. Western Philosophical Association—"The Goodness and Beauty of Truth," H. B. Alexander, University of Nebraska; "The Nature of Truth," J. E. Boodin, University of Nebraska; "An Idealistic Philosophy as a Basis of Psychotherapy," Rowland Haynes, University of Minnesota; "Two Modern Social Philosophers," E. L. Talbert, State Normal School, Milwaukee, Wisconsin. Joint Session—Address of the President of the Western Philosophical Association, Professor Carl E. Seashore: "The Rôle of Play in Religion." Saturday, March 26, Joint Session—"Huxley's Epiphenomenalism, A Criticism and Appreciation," E. B. McGilvary, University of Wisconsin; "The Sense of Adjustment and Life of Appreciation," E. D. Starbuck, University of Iowa; "Virtues: Types and Sources," F. C. French, University of Nebraska. North Central Section of the American Psychological Association—"A Study in the Acquisition of Skill in the Writing Process," Linus W. Kline, State Normal School, Duluth, Minn.; "Some New Apparatus: (*a*) A New Memory Apparatus; (*b*) An Apparatus for the Investigation of the Light and Color Sense in Animals," F. Kuhlmann, University of Illinois; "The Correlation of Musical Education, Pitch Discrimination, and Ability in Singing," George Haines Mount, University of Iowa; "Discrimination Sensibility for Pitch within the Tonal Range," Henry G. Schaeffer, University of Iowa; "The Rôle of Pitch in Rhythm," Herbert Woodrow, University of Minnesota. Western Philosophical Association—"An Introduction to Philosophy through the Philosophy of History," J. W. Hudson, University of Missouri; "The Aims of an Introductory Course in Philosophy," Edgar L. Hinman, University of Nebraska; "The Naturalistic Approach to Philosophy," Bernard C. Ewer, Northwestern University.

THE Minnesota Psychological Conference was held on April 1, at the University of Minnesota, with the following program: Forenoon session—Symposium on Retardation: "Retarded Children in Minnesota Schools," Superintendent F. E. Lurton, Anoka; "The Literature of Retardation," Dr. H. H. Woodrow, University of Minnesota; "Retardation and Physical Defects," Dr. E. A. Meyerding, physical instructor, St. Paul Schools; "Backward and Feeble-minded Children from the Institution Standpoint," Dr. A. C. Rogers, superintendent Minnesota School for Feeble-minded, Faribault; open discussion led by Judge John Day Smith, Juvenile Court, Minneapolis, Superintendent J. L. Silvernail, Red Wing. Afternoon session—"Philosophical Implications in the Elementary Course in Psychology," Professor Luther A. Weigle, Carlton College; discussion led by Professor G. D. Walcott, Hamline University; "An Inquiry into Children's Interests in Written Composition," Supervisor J. H. Harris, Minneapolis; discussion led by Professor J. L. Stockton, Winona Normal School; "Suggestibility in School Children," Mr. A. S. Edwards, University of Minnesota; "The Psychology of the Thought Method," Miss Theda Gildermeister, Winona Normal School.

AT the University of Minnesota the department of psychology has

organized a free clinic for the study of mental development. It is the aim of the department to apply psychological methods to the training of backward children. Dr. H. H. Woodrow will have immediate charge of the work. This semester he is conducting a special course in mental retardation. Dr. J. P. Sedgwick, clinical instructor in diseases of children in the college of medicine, will superintend the physical diagnosis of all children studied. In order not to interfere with medical interests and social organizations which are already in part serving similar purposes, the department reserves the right to decide what children it will work with. Mr. W. M. Duke, a specialist in the correction of stuttering and stammering, has offered to assist in the training to correct speech defects. It is the intention to make the correction of speech disturbances a matter of special investigation as it is a field in which training is recognized to be of prime importance.

DR. BORDEN PARKER BOWNE, professor of philosophy and dean of the graduate school of arts and sciences of Boston University, died suddenly at his home on April 1. Dr. Bowne has been a dean of Boston University since 1876. He was born at Leonardville, N. J., on January 14, 1847. He was graduated from the University of New York in 1871 and began a special study in philosophy. His book, "The Philosophy of Herbert Spencer," published in 1874, was such a success that Dr. Bowne decided to make philosophy his life work and spent several years abroad studying at the universities of Halle, Paris, and Göttingen. On his return he served some time on the staff of the New York *Independent* and was then appointed to the chair of philosophy at Boston University.

VIVIAN A. C. HENMON, A.B. (Bethany), Ph.D. (Columbia), now professor in the University of Colorado and dean, has been elected associate professor of educational psychology in the University of Wisconsin.

R. M. OGDEN, A.B. (Cornell), Ph.D. (Würzburg), has been promoted to a professorship of philosophy and psychology in the University of Tennessee.

CHARLES HUGHES JOHNSTON, junior professor of education at the University of Michigan, has been elected dean of the School of Education at the University of Kansas. In addition to his duties as dean, Mr. Johnston will continue his work and offer his courses in educational psychology.

DR. J. A. BERGSTRÖM, professor of pedagogy at Stanford University, previously professor of pedagogy and director of the psychological laboratory at the University of Indiana, died on February 28, at the age of forty-two years.

THE honorary degree of Doctor of Letters was conferred upon Emile Boutroux, professor of Philosophy at the Sorbonne and director of the Fondation Thiers, on April 4 by Columbia University.